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(54) Abstract Title
Orthogonal modulation scheme with reduced peak to average power ratio (PAPR)

(57) The present invention relates to an apparatus and method for modulating data by employing orthogonal
variable spreading factor (OVSF) codes in a mobile communication system. A code generating means
generates at least one spreading code to be allocated to a channel and is selected such that two consecutive
pairs of in-phase (I) and quadrature (Q) data correspond to two points located on the same point in the phase
domain (see figure) or are symmetrical with respect to the zero point (see fig. 9) . Data for transmission is then
spread using the generated code and phase rotated by a Walsh rotator such that the phase difference between
consecutive points is ninety degrees (90°). The ninety degree phase difference leads to a reduction in the peak
to average power ratio (PAPR) of a mobile station. Preferably the orthogonal complex quadrature phase shift
keying (OCQPSK) modulation scheme is adopted.

FIG. 8

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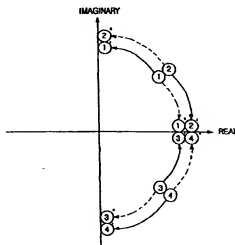
At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

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